

ORIGINAL ARTICLES.

With Plate M.

Peru: Technology.

Joyce.

The Peruvian Loom in the Proto-Chimu Period. *By T. A. Joyce.* **106**

Of the remains which have descended to us from the pre-Spanish culture of Peru the most conspicuous, from the point of view both of art and technique, are the pottery and the textiles. Much has been written about both, but of the two, it is the pottery alone which can to any great extent be classified. That is to say, a good *prima facie* case has been made out for the sequence-dating of the various styles which succeeded one another in the highlands and on the coast, but the textiles have not been seriously studied from the same point of view, except in the monograph of Max Schmidt.* Schmidt has indicated certain points of technique (to which I shall recur) which are characteristic of the coast and of the highlands at certain epochs. Moreover, apart from technique, certain artistic styles (such as that of the Tiahuanaco period, for instance) are recognisable at a glance; yet, when dealing with so important a culture-centre as the Truxillo region, we have as yet no satisfactory criterion by which the early textiles of the Proto-Chimu period can be readily distinguished from those of the *renaissance* known as Chimu, though some centuries appear to have intervened between the two. The reason every student of American archaeology knows. Excavation has for the most part been wantonly indiscriminate in the Truxillo area†: no records of grave-finds have been kept (or, if they have, they have not been published), and we do not know what classes of textiles are associated with the different classes of pottery.

Peruvian looms are very scarce in museums, and, when found, are usually incomplete, and almost invariably undatable, even in accordance with the sequence-dating at present accepted. The object of this note is to place on record a definite and indisputable correlation between a certain type of loom and a certain type of pottery.

Plate M., Fig. A., illustrates the lip, seen from above, of a circular bowl with flat base and flaring sides (a profile view is shown in Plate M., Fig. B.) which was presented to the British Museum in 1913 by Sir Herbert Gibson. The bowl is of red pottery, and the interior of the lip has been covered with a cream-coloured slip on which a design has been painted in dark red. The specimen comes from a grave in the Chicama Valley, near Truxillo, and belongs to the period known as Proto-Chimu, which witnessed the earliest, and at the same time the finest, cultural development characteristic of that region. The date of this period lies somewhere between the centuries immediately preceding and posterior to the Christian era, and thus corresponds roughly to the Han period in China, possibly a little later than the limiting dates of that epoch.

The scene pictured falls into two halves, divided almost vertically in the position of the vase as figured. On either side is a long shed, with matting roof supported on forked posts, under which sits a number of women weaving. The looms are fastened each by the upper end to one of the posts, and the warp is kept extended by a band attached to the "breast-beam," and passing round the back of the weaver. Each weaver has (a) a pattern set before her of the particular design which she is weaving on her loom; (b) a number of small wooden needles wrapped with thread, which conceals the small pottery weight invariably fitted to these implements; (c) a pottery water-jar of the period. The principal feature to be noted is that in no instance is the loom fitted with a heddle, and the work, therefore, upon which

* *Baessler-Archiv*, Band I., Heft I. Berlin, 1910.

† I except Uhle's researches at Moche, which are of the highest value for pottery remains.

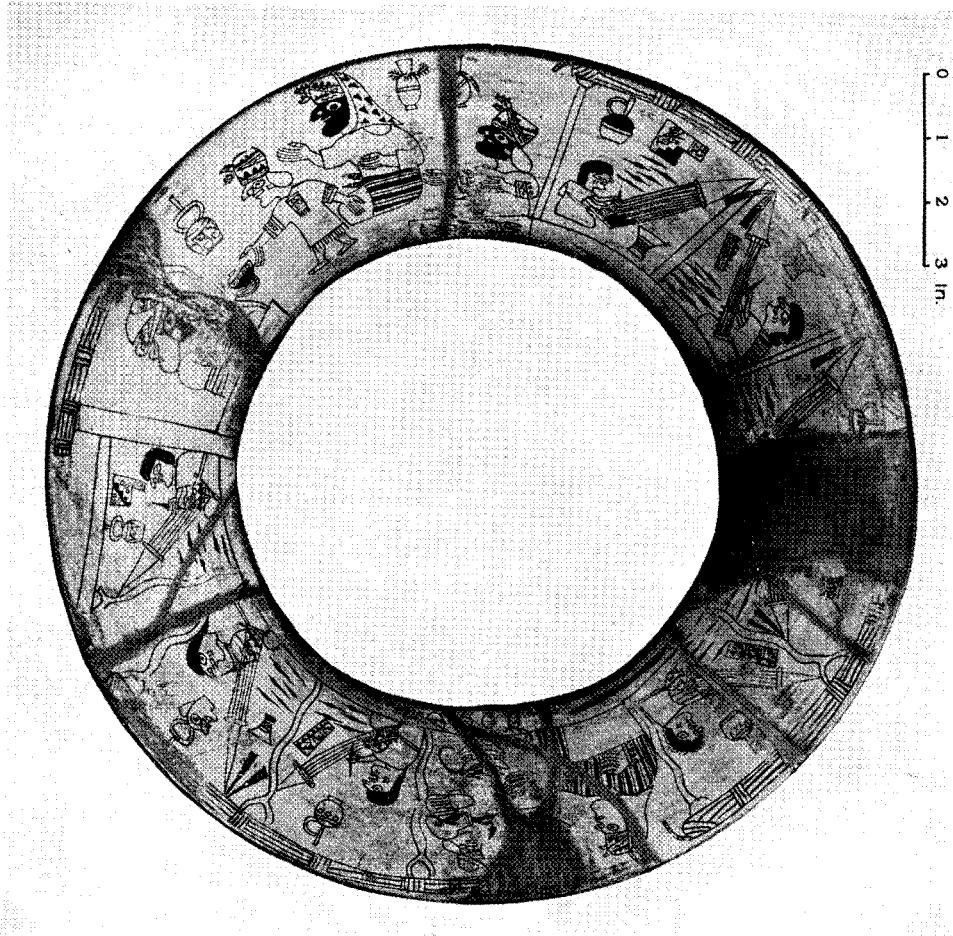


FIG. A.



FIG. B.

THE PERUVIAN LOOM IN THE PROTO-CHIMU PERIOD.

each is engaged is tapestry and not true weaving. At the top end of the shed to the left, under a special shelter, sits an individual with a dark face, probably a man, since it seems to be a convention to portray males with darker faces than the women. Owing to his special seat, and the fact that he is being waited on by a smaller figure who is handing him a cup, we may assume that he is the overseer. In front of him sit two other men, perhaps engaged in the preparation of food, since a large fish lies by them on the ground and there are two jars in the background. At the bottom of the plate, in the space between the two weaving-sheds, are two female figures, perhaps similarly employed.

Now we have on this vase, which definitely belongs to the Proto-Chimu period—that is to say, the earliest period of any sort of developed culture on the northern Peruvian coast—a scene showing the weaving of tapestry on a loom without a heddle, associated with figures of pottery also belonging to the same early period. It will be noticed that the patterns all run diagonally; more than this, it is clear that at least in one instance (the topmost figure in the weaving-shed on the right), the

textile is being built up on diagonal lines. This is significant, since it means that where a line of demarkation between two wefts (*i.e.*, wefts of different colour) runs parallel with the warp, there will be a vertical slit in the textile. The diagonal form of the pattern limits the length of these slits and prevents them from prejudicing the stability of the tapestry. In Fig. 1, I reproduce an illustration from my *South American Archaeology* which shows in diagrammatic form the structural nature of these slits, which are typical of the Truxillo area.

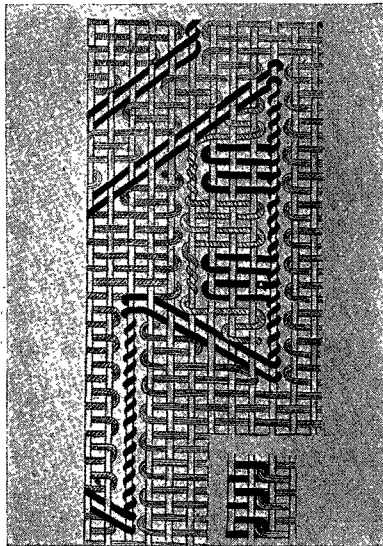


FIG. 1.

I now come to Schmidt's conclusions, but, before dealing with them, I will recapitulate shortly the culture periods which can at present be distinguished in Peru. These have been based upon a study of the pottery.

It would appear that the first manifestations of any appreciable culture in Peru appear contemporaneously in three centres. These are the coastal region around Truxillo (Proto-Chimu), the coastal region around Nasca (Proto-Nasca),

and the highland region around Tiahuanaco (Tiahuanaco I and II). The distinction between Tiahuanaco I and II is based upon certain differences in sculptural art, which the slight excavatory evidence would seem to support. Admitting a difference between the two, we must also admit that between Tiahuanaco II, which was a great artistic period, and Proto-Nasca there was a stronger affinity than between either and Proto-Chimu. It is clear that the Tiahuanaco II art spread to the coast, but I think there is no evidence as yet that it affected the centre of the Proto-Chimu area. But it is evident that all three centres underwent a long period of decadence, followed by three *renaissances*.

In the Truxillo region, Proto-Chimu was followed by Chimu; in the Nasca region, Proto-Nasca was followed by Nasca; in the highlands, the Tiahuanaco culture was replaced by the Inca, the centre shifting northward from Tiahuanaco to Cuzco. Finally the Inca conquered the whole coast, and, by their system of resettlement, brought about a certain interchange and general levelling of culture.

The conclusions of Schmidt are based mainly upon the excavations of Uhle—

conducted on proper scientific lines—at Pachacamac, about half-way between Nasca and Truxillo. Here the earliest textiles showed designs in the Tiahuanaco style, and this most distinctive form of art was accompanied by an equally distinctive technique. The early polychrome figured textiles of Peru are for the most part weft-faced and the technique is that of tapestry. Where the line of demarkation between colours runs parallel with the warp, a corresponding slit in the fabric will result unless special measures are taken to prevent it. This can be seen in the diagrammatic illustration, Fig. 1 (major portion), which shows the technique of a three-colour textile with a bird-design, the portion illustrated being the bird's tail. Such slits, when they were permitted to occur, were so arranged that they performed a useful function in emphasising the design; but care had to be observed in arranging the pattern so that they were adequately spaced and of restricted dimensions, otherwise the stability of the fabric would have been endangered. For this reason most of the patterns run on diagonal lines (such as the patterns on the looms figured in Plate M.). In cases where, owing to the exigencies of the design, long slits would normally occur, special measures were taken to deal with them. They were closed either (*a*) by subsequent sewing, (*b*) by allowing the colours to overlap, or (*c*) by interlocking the contiguous wefts (*see* Fig. 1, inset). Uhle found that the earliest textiles at Pachacamac, which bear designs in the unmistakable style of the Tiahuanaco period, are distinguished by this last, interlocking, method. Further, that the interlocking method is characteristic of the early textiles from the Nasca region. In the regions further north, however, the interlocking method occurs *only* in textiles which bear designs in the Tiahuanaco style, or which belong definitely to the period subsequent to the Inca conquest. At Pachacamac itself this particular form of technique disappears with the textiles characterised by designs in the Tiahuanaco style, and cloths with open slits, or slits closed by one of the other two methods, make their appearance. Only in the Inca period of this site is there a revival of the earlier interlocking system. From a study of the textiles themselves, Schmidt concludes that those belonging to the Tiahuanaco and Proto-Nasca cultures were true tapestries—that is to say, that they were woven on a loom unprovided with a heddle. The second period at Pachacamac, in which the interlocking of the weft disappears and cloths with open slits occur, is also distinguished by the appearance of the heddle, and the same is true of the products of the Nasca (as opposed to the Proto-Nasca) period. Schmidt is evidently inclined to believe that the principle of the heddle was introduced from the northern portion of the Peruvian coast—that is to say, the Proto-Chimu or Chimú area. Now the region in which the use of so important a mechanical appliance was adopted by the American weaver, together with its “whence” (if it were not an independent invention), is a technological question of the highest interest. Schmidt, as I have said, is inclined to believe that the heddle was introduced from the northern portion of the Peruvian coast to the central and southern regions together with the open slit-work technique. The bowl figured in the plate, which definitely belongs to the Proto-Chimu period, shows eight looms, on which are being constructed tapestries with typical diagonal polychrome designs, exhibiting, presumably, the open slits which subserve the decorative scheme. Yet none of these looms is furnished with a heddle. The argument is not conclusive, being negative; of that I am aware, but, being, so far as I know, the only evidence for the loom of this period, it is of importance. It does not prove, but it suggests, that the principle of the heddle was unknown to the Proto-Chimu weaver. If that is so, then the heddle belongs to a comparatively late period of South American culture. That is all that can be said, because if it made its appearance in the Chimú-Nasca period, there is no evidence yet available to show whether it was first employed in the Chimú, the Nasca, or the intermediate region. More than that, I can find no evidence to *prove*

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[December, 1921.

that it was employed by the coast peoples before they came in contact with the Inca, directly or indirectly.

For the inconclusiveness of this note, I offer no apology. Its sole *raison d'être* is to place on record what I believe to be the first evidence regarding the type of loom used by early inhabitants of the Truxillo region, known as Proto-Chimu.

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